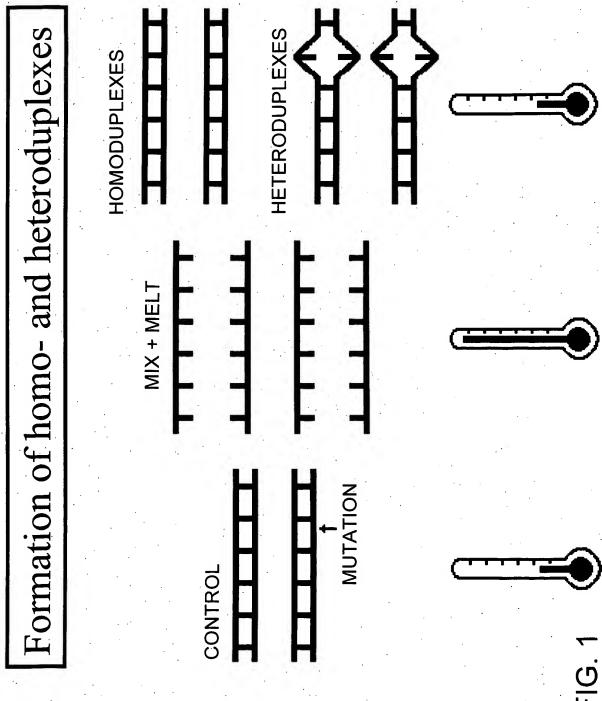
Appln No.: 10/619,588 Page 1 of Applicant(s): Zhaowei Liu METHOD AND SYSTEM FOR COMPARATIVE GENOMICS FOR CLOSELY RELATED ORGANISMS USING TEMPERATURE GRADIENT ELECTROPHORESIS





Appln No.: 10/619,588 Page 2 of 7
Applicant(s): Zhaowei Liu
METHOD AND SYSTEM FOR COMPARATIVE GENOMICS
FOR CLOSELY RELATED ORGANISMS USING
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**HETERODUPLEXES / CAPILLARY 1** SAMPLE INJECT TIME = 0WILD TYPE CONTROL / CAPILLARY 2 TIME = B **HETERODUPLEXES SEPARATE** TIME -**HETERODUPLEXES CAPILLARY 1** TIME . **WILD TYPE** CONTROL **CAPILLARY 2** 

FIG. 2

## **Procedure Flowchar**

Design PCR primers based on DNA sequence of reference strain or individual

Mix genomic DNAs of the reference and test strains

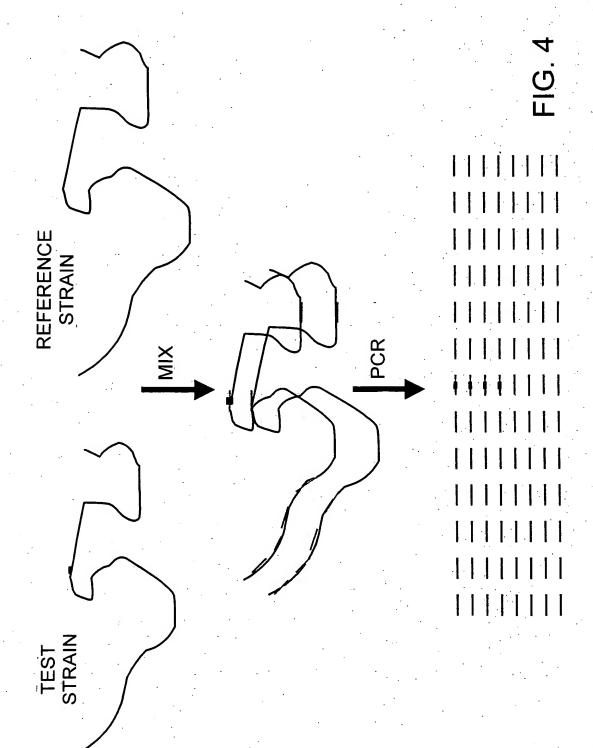
PCR-amplify DNA regions across the genome, either single reaction or multiplexed reactions

Combining single and/or multiplexed PCR reactions

Denature and anneal PCR products to form heteroduplexes/homoduplexes

Scan by temperature gradient electrophoresis to identify heterozygous DNA fragments/variants with a single SNP/simple Indel formed by mixing reference and test strains

Determine sequences of variants to locate the exact positions of the SNP/Indel



|           | (SEQ ID NO: 1) — GATGAGGCATTTGAC—— (SEQ ID NO: 2) — CTACTCCGTAAACTG——         |  | (SEQ ID NO: 1) ——GATGAGGCATTTGAC— | (SEQ ID NO: 2) ——CTACTCCGTAAACTG | (SEQ ID NO: 3) ——GATGAGGCGTTTGAC—<br>(SEQ ID NO: 4) ——CTACTCCGCAAACTG—— | (SEQ ID NO: 1) ——GATGAGGCATTTGAC— (SEQ ID NO: 4) ——CTACTCCGCAAACTG—    | (SEQ ID NO: 3) ——GATGAGGCGTTTGAC——(SEQ ID NO: 2) ——CTACTCCGTAAACTG— |
|-----------|---|--|-----------------------------------|----------------------------------|---|--|---|
| Denature/ | annea   |  |                                   | / Oz. 140 c. OC                  | anneal  |  |   |
|           | 16 — (SEQ ID NO: 1) — GATGAGGCATTTGAC— — (SEQ ID NO: 2) — CTACTCCGTAAACTG— —— |  |                                   |                                  | (SEQ ID NO: 2) - CTACTCCGTAAACTG  | (SEQ ID NO: 3) GATGAGGCGTTTGAG-<br>(SEQ ID NO: 4) CTACTCCGCAAACTG-<br> |   |
|           | Homozygote  |  |                                   |                                  | eterozygote   | ·  |   |

Page 6 of 7

Appln No.: 10/619,588 Page 7 of Applicant(s): Zhaowei Liu METHOD AND SYSTEM FOR COMPARATIVE GENOMICS FOR CLOSELY RELATED ORGANISMS USING TEMPERATURE GRADIENT ELECTROPHORESIS

